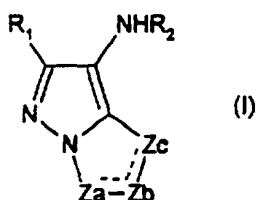


**WHAT IS CLAIMED IS:**

1. A composition for the oxidation dyeing of keratinous fibers, wherein said composition comprises, in a medium suitable for dyeing:
  - as oxidation base, at least one pyrazoloazole compound of formula (I) or at least one acid addition salt thereof:



in which:

$R_1$  represents: a hydrogen atom; a linear or branched  $C_1$ - $C_{20}$  alkyl radical, optionally substituted by 1 or 2 radicals R chosen from a halogen atom, a nitro radical, a cyano radical, a hydroxyl radical, an alkoxy radical, an aryloxy radical, an amino radical, an alkylamino radical, an acylamino radical, a carbamoyl radical, a sulphonamido radical, a sulphamoyl radical, an imido radical, an alkylthio radical, an arylthio radical, an aryl radical, a  $(C_1-C_4)$ alkoxy-carbonyl radical and an acyl radical; an aryl radical optionally substituted by 1 or 2 radicals R as defined above; a 5- or 6-membered heterocycle containing at least one nitrogen, oxygen or sulphur atom wherein said heterocycle is optionally substituted by 1 or 2 radicals R as defined above;

when  $R_1$  denotes a  $C_1$ - $C_4$  alkyl radical, an aryl radical or a 5- or 6-membered

heterocycle, it can be connected to the carbon atom of the pyrazole via an oxygen, nitrogen or sulphur atom;

$R_1$  can, additionally, denote a halogen atom; an acyl radical; a sulphonyl radical; a sulphinyl radical; a phosphonyl radical; a carbamoyl radical; a sulphamoyl radical; a cyano radical; a siloxy radical; an amino radical; an acylamino radical; an acyloxy radical; a carbamoyloxy radical; a sulphonamide radical; an imide radical; a ureido radical; a sulphamoylamino radical; a  $(C_1-C_4)$ alkoxy-carbonylamino radical; an aryloxy-carbonylamino radical; a  $(C_1-C_4)$ alkoxy-carbonyl radical; an aryloxy-carbonyl radical; a carboxyl radical; or a hydroxyl radical;

$R_2$  is a hydrogen atom; a  $C_1-C_4$  alkyl radical; a  $C_1-C_4$  monohydroxyalkyl radical; a  $C_2-C_4$  polyhydroxyalkyl radical; a  $C_1-C_4$  aminoalkyl radical; a  $(CH_2)_p-X-(CH_2)_qOR'$  radical in which  $p$  and  $q$  are identical or different integers ranging from 1 to 3,  $R'$  represents a hydrogen atom or a methyl radical, and  $X$  denotes an oxygen atom or an  $NR''$  group in which  $R''$  represents a hydrogen atom or a methyl radical; a  $(C_1-C_4)$ alkoxy $(C_2-C_4)$ alkyl radical; or a di $(C_1-C_4)$ alkylamino $(C_1-C_4)$ alkyl radical;

$Z_a$ ,  $Z_b$  and  $Z_c$  represent, independently of one another, a nitrogen atom or a carbon atom carrying an  $R_3$  or  $R_4$  radical, where  $R_3$  and  $R_4$  independently have the same meanings as those indicated above for  $R_1$ , with the proviso that at least one of the  $Z_a$ ,  $Z_b$  and  $Z_c$  radicals is other than a carbon atom;  $R_3$  and  $R_4$  can also together form a substituted or unsubstituted aromatic ring, such as a phenyl ring.

2. A composition according to claim 1, wherein said keratinous fibers are human keratinous fibers.
3. A composition according to claim 2, wherein said human keratinous fibers are hair.
4. A composition according to claim 1, wherein, when  $R_1$  represents a linear or branched  $C_1$ - $C_{20}$  alkyl radical substituted by one or two radicals R wherein R is an aryl radical or when  $R_1$  is an aryl radical, said aryl radical is phenyl or naphthyl.
5. A composition according to claim 1, wherein  $R_1$  represents a 5 or 6 membered heterocycle containing at least one nitrogen, oxygen or sulphur atom and wherein said heterocycle is pyridyl, quinolyl, pyrrolyl, morpholyl, furanyl, tetrahydrofuranyl, pyrazolyl, triazolyl, thiazolyl, oxazolyl, imidazolyl or thiadiazolyl.
6. A composition according to claim 1, wherein  $R_1$  is a halogen atom and wherein said halogen is bromine, chlorine, or fluorine.
7. A composition according to claim 1, wherein  $R_1$  is a hydrogen atom; a linear or branched  $C_1$ - $C_4$  alkyl radical; a phenyl ring; a phenyl ring substituted by a halogen atom, a  $C_1$ - $C_4$  alkyl radical, a  $C_1$ - $C_4$  alkoxy radical, a nitro radical, an amino radical, a trifluoromethyl radical or by a  $C_1$ - $C_4$  alkylamino radical; a benzyl radical; a benzyl radical substituted by a halogen atom, a  $C_1$ - $C_4$  alkyl radical, a  $C_1$ - $C_4$  alkoxy radical, a nitro radical, an amino radical, a trifluoromethyl radical or by a  $C_1$ - $C_4$  alkylamino radical; a heterocycle chosen from thiophene, furan or pyridine rings; a

trifluoromethyl radical; a  $(CH_2)_p-X-(CH_2)_q-OR'$  radical in which p and q are identical or different integers ranging from 1 to 3, R' represents a hydrogen atom or a methyl radical and X denotes an oxygen atom or an NR" radical in which R" denotes a hydrogen atom or a methyl radical; a C<sub>1</sub>-C<sub>4</sub> hydroxyalkyl radical; a C<sub>1</sub>-C<sub>4</sub> aminoalkyl radical; a C<sub>1</sub>-C<sub>4</sub> alkylamino radical; a di(C<sub>1</sub>-C<sub>4</sub>)alkylamino radical; an arylamino radical; an alkoxy radical chosen from methoxy, ethoxy and phenoxy; a halogen atom chosen from bromine, chlorine and fluorine; a carboxyl radical; a C<sub>1</sub>-C<sub>4</sub> alkoxycarbonyl radical; a phenyloxycarbonyl radical; a methylthio radical; an ethylthio radical; a phenylthio radical; a methanesulphonyl radical; a cyano radical; an amino radical; or a hydroxyl radical.

8. A composition according to claim 7, wherein R<sub>1</sub> is a hydrogen atom; an alkyl radical chosen from methyl, ethyl, isopropyl and tert-butyl radicals; a halogen atom chosen from chlorine and fluorine; a phenyl radical; a toluyl radical; a 4-chlorophenyl radical; a 4-methoxyphenyl radical; a 3-methoxyphenyl radical; a 2-methoxyphenyl radical; a benzyl radical; a heterocycle chosen from pyridyl, furyl and thienyl rings; a trifluoromethyl radical, a hydroxymethyl radical; an aminomethyl radical; a methoxy radical; an ethoxy radical; a methylamino radical; an ethylamino radical; a dimethylamino radical; a carboxyl radical; a methoxycarbonyl radical; an ethoxycarbonyl radical or a cyano radical.

9. A composition according to claim 8, wherein R<sub>1</sub> a hydrogen atom; a

chlorine atom; a methyl radical; an ethyl radical; a phenyl radical; a toluyl radical; a 4-chlorophenyl radical; a 4-methoxyphenyl radical; a benzyl radical; a trifluoromethyl radical; a methoxy radical; an ethoxy radical; a carboxyl radical; a methylamino radical; a dimethylamino radical or a cyano radical.

10. A composition according to claim 1, wherein  $R_2$  is of a hydrogen atom; a methyl radical or a  $\beta$ -hydroxyethyl radical.

11. A composition according to claim 10, wherein  $R_2$  is a hydrogen atom.

12. A composition according to claim 1, wherein  $R_3$  and  $R_4$  are independently a hydrogen atom; a hydroxyl radical; an amino radical; a linear or branched  $C_1$ - $C_4$  alkyl radical; a trifluoromethyl radical; a phenyl ring; a phenyl ring substituted by one or two radicals R chosen from a halogen atom, a  $C_1$ - $C_4$  alkyl radical, a  $C_1$ - $C_4$  alkoxy radical, a hydroxyl radical, a carboxyl radical, a nitro radical, a  $C_1$ - $C_4$  alkylthio radical, a methylenedioxy radical, an amino radical, a trifluoromethyl radical and a  $C_1$ - $C_4$  alkylamino radical; a benzyl radical; a benzyl radical substituted by a halogen atom, a methyl or isopropyl radical or a methoxy radical; a  $C_1$ - $C_4$  monohydroxyalkyl radical; a  $C_1$ - $C_4$  aminoalkyl radical; a  $(C_1-C_4)$ alkylamino $(C_1-C_4)$ alkyl radical; an alkoxy radical chosen from methoxy, ethoxy and phenoxy radicals; a methylthio radical; an ethylthio radical; a phenylthio radical; a methanesulphonyl radical; or a substituted or unsubstituted aromatic ring formed jointly by  $R_3$  and  $R_4$ .

13. A composition according to claim 12, wherein  $R_3$  and  $R_4$  jointly form a

substituted or unsubstituted aromatic ring, said ring being a phenyl ring, pyridyl ring or phenyl ring substituted by a sulphonyl radical, a halogen atom, a C<sub>1</sub>-C<sub>4</sub> alkoxy radical, a C<sub>1</sub>-C<sub>4</sub> alkyl radical, a nitro radical, a cyano radical, an amino radical, a C<sub>1</sub>-C<sub>4</sub> alkylamino radical or a trifluoromethyl radical.

14. A composition according to claim 12, wherein R<sub>3</sub> and R<sub>4</sub> are independently a hydrogen atom; an alkyl radical chosen from methyl, ethyl, isopropyl, n-propyl and tert-butyl radicals; a phenyl ring; a toluyl ring; a 2-, 3- or 4-chlorophenyl ring; a 3- or 4-hydroxyphenyl ring; a 3- or 4-aminophenyl ring; a 3- or 4-methoxyphenyl ring; a 4-trifluoromethylphenyl ring; a benzyl ring; a trifluoromethyl radical; a hydroxymethyl radical; a hydroxyethyl radical; a hydroxyisopropyl radical; an aminomethyl or aminoethyl radical; a methoxy or ethoxy radical; a methylthio or ethylthio radical; or a substituted or unsubstituted aromatic ring formed jointly by R<sub>3</sub> and R<sub>4</sub>.

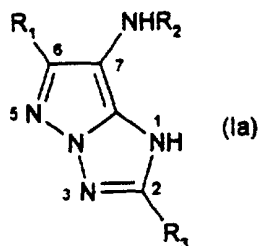
15. A composition according to claim 14, wherein R<sub>3</sub> and R<sub>4</sub> jointly form a substituted or unsubstituted aromatic ring, said ring being a phenyl, toluyl, sulphonylphenyl or chlorophenyl ring.

16. A composition according to claim 14, wherein R<sub>3</sub> and R<sub>4</sub> independently are a hydrogen atom; a methyl radical; an ethyl radical; an isopropyl radical; a phenyl ring; a 4-chlorophenyl ring; a 4-methoxyphenyl ring; a 4-aminophenyl ring; a methoxy or ethoxy radical; a methylthio or ethylthio radical; or R<sub>3</sub> and R<sub>4</sub> jointly form a phenyl ring.

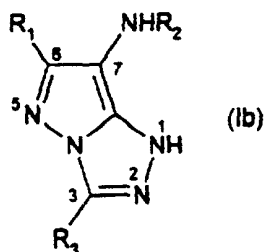
17. A composition according to claim 1, wherein said at least one compound

of formula (I) is chosen from:

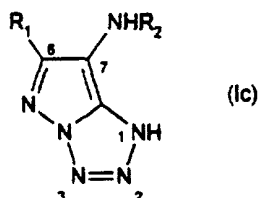
i) pyrazolo[1,5-b]-1,2,4-triazoles of formula (Ia) and the acid addition salts thereof:



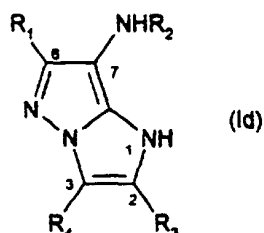
ii) pyrazolo[3,2-c]-1,2,4-triazoles of formula (Ib) and the acid addition salts thereof:



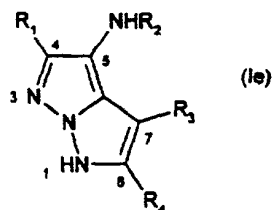
iii) pyrazolotetrazoles of formula (Ic) and the acid addition salts thereof:



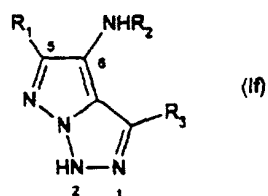
iv) pyrazolo[1,5-a]imidazoles of formula (Id) and the acid addition salts thereof:



v) pyrazolo[5,1-e]pyrazoles of formula (Ie) and the acid addition salts thereof:



vi) pyrazolo[5,1-e]-1,2,3-triazoles of formula (If) and the acid addition salts thereof:



in which R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub> and R<sub>4</sub> have the same meanings as those indicated in claim 1.

18. A composition according to claim 17, wherein said pyrazolo[1,5-b]-1,2,4-triazoles of formula (Ia) or said pyrazolo[3,2-c]-1,2,4-triazoles of formula (Ib) are chosen



from those compounds in which:

- $R_1$  is a hydrogen atom or a methyl, trifluoromethyl, carboxyl, phenyl, ethoxy, cyano, ethylthio, amino or hydroxyl radical;
- $R_2$  is a hydrogen atom; and
- $R_3$  is a hydrogen atom or a methyl,  $\beta$ -aminoethyl, ethyl, isopropyl, phenyl,  $\beta$ -hydroxyethyl, methylthio or ethoxy radical.

19. A composition according to claim 17, wherein said pyrazolotetrazoles of formula (1c) are chosen from those compounds in which:

- $R_1$  is a hydrogen atom or a methyl, trifluoromethyl, carboxyl, phenyl, ethoxy or cyano radical; and
- $R_2$  is a hydrogen atom.

20. A composition according to claim 17, wherein said pyrazolo[1,5-a]imidazoles of formula (1d) are chosen from those compounds in which:

- $R_1$  is a hydrogen atom or a methyl, trifluoromethyl, carboxyl, phenyl, ethoxy, cyano, amino, ethylthio or hydroxyl radical;
- $R_2$  is a hydrogen atom; and
- $R_3$  and  $R_4$  are respectively a hydrogen atom and a hydrogen atom, a hydrogen atom and a methyl radical, a methyl radical and a hydrogen atom, a hydrogen atom and a phenyl radical, or a hydroxyl radical and a hydrogen atom; or  $R_3$  and  $R_4$  jointly form a phenyl ring.

21. A composition according to claim 17, wherein said pyrazolo[5,1-e]pyrazoles of formula (Ie) are chosen from those compounds in which:

- $R_1$  is a hydrogen atom or a methyl, trifluoromethyl, carboxyl, phenyl, ethoxy or cyano radical;
- $R_2$  is a hydrogen atom; and
- $R_3$  and  $R_4$  respectively are a hydrogen atom and a methyl radical, a methyl radical and a hydrogen atom, a methyl radical and a methyl radical, a hydrogen atom and a phenyl radical, or a hydrogen atom and an amino radical.

22. A composition according to claim 17, wherein said pyrazolo[5,1-e]-1,2,3-triazoles of formula (If) are chosen from those compounds in which:

- $R_1$  is a hydrogen atom or a methyl, trifluoromethyl, carboxyl, phenyl, ethoxy or cyano radical;
- $R_2$  is a hydrogen atom; and
- $R_3$  is a hydrogen atom or a methyl radical.

23. A composition according to claim 1, wherein said at least one compound of formula (I) is chosen from:

- 7-amino-2-methylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-2-ethylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-2-isopropylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-2-phenylpyrazolo[1,5-b]-1,2,4-triazole;

- 7-amino-2,6-dimethylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-methyl-2-ethylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-methyl-2-isopropylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-methyl-2-phenylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-carboxy-2-methylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-carboxy-2-ethylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-carboxy-2-isopropylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-carboxy-2-phenylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-phenyl-2-methylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-phenyl-2-ethylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-phenyl-2-isopropylpyrazolo[1,5-b]-1,2,4-triazole;
- 6,7-diamino-2-methylpyrazolo[1,5-b]-1,2,4-triazole;
- 6,7-diamino-2-ethylpyrazolo[1,5-b]-1,2,4-triazole;
- 6,7-diamino-2-isopropylpyrazolo[1,5-b]-1,2,4-triazole;
- 6,7-diamino-2-phenylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-ethylthio-2-methylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-ethylthio-2-ethylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-ethylthio-2-isopropylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-ethylthio-2-phenylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-ethoxy-2-methylpyrazolo[1,5-b]-1,2,4-triazole;

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- 7-amino-6-ethoxy-2-ethylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-ethoxy-2-isopropylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-ethoxy-2-phenylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-methyl-2-(2'-aminoethyl)pyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-carboxy-2-(2'-aminoethyl)pyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-phenyl-2-(2'-aminoethyl)pyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-ethylthio-2-(2'-aminoethyl)pyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-2-(2'-aminoethyl)pyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-2-(2'-hydroxyethyl)pyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-methyl-2-(2'-hydroxyethyl)pyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-ethylthio-2-(2'-hydroxyethyl)pyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-carboxy-2-(2'-hydroxyethyl)pyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-phenyl-2-(2'-hydroxyethyl)pyrazolo[1,5-b]-1,2,4-triazole;
- 6,7-diamino-2-(2'-aminoethyl)pyrazolo[1,5-b]-1,2,4-triazole;
- 6,7-diamino-2-(2'-hydroxyethyl)pyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-ethoxy-2-(2'-aminoethyl)pyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-ethoxy-2-(2'-hydroxyethyl)pyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-3-methylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-3-ethylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-3-isopropylpyrazolo[3,2-c]-1,2,4-triazole;

- 7-amino-3-phenylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-3-(2'-aminoethyl)pyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-3-(2'-hydroxyethyl)pyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-methyl-3-ethylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-3,6-dimethylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-methyl-3-isopropylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-methyl-3-phenylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-methyl-3-(2'-aminoethyl)pyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-methyl-3-(2'-hydroxyethyl)pyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-methyl-3-(methylthio)pyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-phenyl-3-methylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-phenyl-3-ethylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-phenyl-3-isopropylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-phenyl-3-phenylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-phenyl-3-(2'-aminoethyl)pyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-phenyl-3-(2'-hydroxyethyl)pyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-phenyl-3-(methylthio)pyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-ethylthio-3-methylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-ethylthio-3-ethylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-ethylthio-3-isopropylpyrazolo[3,2-c]-1,2,4-triazole;

- 7-amino-6-ethylthio-3-phenylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-ethylthio-3-(2'-aminoethyl)pyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-ethylthio-3-(2'-hydroxyethyl)pyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-trifluoromethyl-3-(methylthio)pyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-(trifluoromethyl)pyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-carboxy-3-methylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-carboxy-3-ethylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-carboxy-3-isopropylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-carboxy-3-phenylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-carboxy-3-(2'-aminoethyl)pyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-carboxy-3-(2'-hydroxyethyl)pyrazolo[3,2-c]-1,2,4-triazole;
- 6,7-diamino-3-methylpyrazolo[3,2-c]-1,2,4-triazole;
- 6,7-diamino-3-ethylpyrazolo[3,2-c]-1,2,4-triazole;
- 6,7-diamino-3-phenylpyrazolo[3,2-c]-1,2,4-triazole;
- 6,7-diamino-3-isopropylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-ethoxy-3-methylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-ethoxy-3-ethylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-ethoxy-3-isopropylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-ethoxy-3-phenylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-ethoxy-3-(2'-aminoethyl)pyrazolo[3,2-c]-1,2,4-triazole;

- 7-amino-6-ethoxy-3-(2'-hydroxyethyl)pyrazolo[3,2-c]-1,2,4-triazole;
- 6,7-diamino-3-(2'-aminoethyl)pyrazolo[3,2-c]-1,2,4-triazole;
- 6,7-diamino-3-(2'-hydroxyethyl)pyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-methylpyrazolo[5,1-e]tetrazole;
- 7-amino-6-phenylpyrazolo[5,1-e]tetrazole;
- 7-amino-6-carboxypyrazolo[5,1-e]tetrazole;
- 7-amino-2-methylpyrazolo[1,5-a]imidazole;
- 7-amino-2-phenylpyrazolo[1,5-a]imidazole;
- 7-aminopyrazolo[1,5-a]benzimidazole;
- 7-amino-6-methylpyrazolo[1,5-a]imidazole;
- 7-amino-2,6-dimethylpyrazolo[1,5-a]imidazole;
- 7-amino-6-methyl-2-phenylpyrazolo[1,5-a]imidazole;
- 7-amino-6-methylpyrazolo[1,5-a]benzimidazole;
- 7-amino-6-phenylpyrazolo[1,5-a]imidazole;
- 7-amino-6-phenyl-2-methylpyrazolo[1,5-a]imidazole;
- 7-amino-2,6-diphenylpyrazolo[1,5-a]imidazole;
- 7-amino-6-phenylpyrazolo[1,5-a]benzimidazole;
- 7-amino-6-carboxypyrazolo[1,5-a]imidazole;
- 7-amino-6-carboxy-2-methylpyrazolo[1,5-a]imidazole;
- 7-amino-6-carboxy-2-phenylpyrazolo[1,5-a]imidazole;

- 7-amino-6-carboxypyrazolo[1,5-a]benzimidazole;
- 7-amino-6-ethoxypyrazolo[1,5-a]imidazole;
- 7-amino-6-ethoxy-2-methylpyrazolo[1,5-a]imidazole;
- 7-amino-6-ethoxy-2-phenylpyrazolo[1,5-a]imidazole;
- 7-amino-6-ethoxypyrazolo[1,5-a]benzimidazole;
- 7-amino-6-(trifluoromethyl)pyrazolo[1,5-a]benzimidazole;
- 7-amino-6-aminopyrazolo[1,5-a]imidazole;
- 7-amino-6-amino-2-methylpyrazolo[1,5-a]imidazole;
- 7-amino-6-amino-2-phenylpyrazolo[1,5-a]imidazole;
- 7-amino-6-aminopyrazolo[1,5-a]benzimidazole;
- 7-amino-6-(ethylthio)pyrazolo[1,5-a]imidazole;
- 7-amino-6-ethylthio-2-methylpyrazolo[1,5-a]imidazole;
- 7-amino-6-ethylthio-2-phenylpyrazolo[1,5-a]imidazole;
- 7-amino-6-methyl-2-hydroxypyrazolo[1,5-a]imidazole;
- 7-amino-6-phenyl-2-hydroxypyrazolo[1,5-a]imidazole;
- 7-amino-6-ethoxy-2-hydroxypyrazolo[1,5-a]imidazole;
- 7-amino-6-ethylthio-2-hydroxypyrazolo[1,5-a]imidazole;
- 6,7-diamino-2-hydroxypyrazolo[1,5-a]imidazole;
- 5,8-diamino-4-methylpyrazolo[5,1-e]pyrazole;
- 5,7,8-triamino-4-methylpyrazolo[5,1-e]pyrazole;



- 6-amino-5-methylpyrazolo[5,1-e]-1,2,3-triazole;
- 6-amino-5-phenylpyrazolo[5,1-e]-1,2,3-triazole;

and the acid addition salts thereof.

24. A composition according to claim 17, wherein said pyrazolo[1,5-b]-1,2,4-triazoles of formula (Ia) are chosen from:

- 7-amino-2-methylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-2-ethylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-2-isopropylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-2-phenylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-2,6-dimethylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-methyl-2-ethylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-methyl-2-isopropylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-methyl-2-phenylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-carboxy-2-methylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-carboxy-2-ethylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-carboxy-2-isopropylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-carboxy-2-phenylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-phenyl-2-methylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-phenyl-2-ethylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-phenyl-2-isopropylpyrazolo[1,5-b]-1,2,4-triazole;

- 6,7-diamino-2-methylpyrazolo[1,5-b]-1,2,4-triazole;
- 6,7-diamino-2-ethylpyrazolo[1,5-b]-1,2,4-triazole;
- 6,7-diamino-2-isopropylpyrazolo[1,5-b]-1,2,4-triazole;
- 6,7-diamino-2-phenylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-ethylthio-2-methylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-ethylthio-2-ethylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-ethylthio-2-isopropylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-ethylthio-2-phenylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-ethoxy-2-methylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-ethoxy-2-ethylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-ethoxy-2-isopropylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-ethoxy-2-phenylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-methyl-2-(2'-aminoethyl)pyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-carboxy-2-(2'-aminoethyl)pyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-phenyl-2-(2'-aminoethyl)pyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-ethylthio-2-(2'-aminoethyl)pyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-2-(2'-aminoethyl)pyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-2-(2'-hydroxyethyl)pyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-methyl-2-(2'-hydroxyethyl)pyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-ethylthio-2-(2'-hydroxyethyl)pyrazolo[1,5-b]-1,2,4-triazole;

- 7-amino-6-carboxy-2-(2'-hydroxyethyl)pyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-phenyl-2-(2'-hydroxyethyl)pyrazolo[1,5-b]-1,2,4-triazole;
- 6,7-diamino-2-(2'-aminoethyl)pyrazolo[1,5-b]-1,2,4-triazole;
- 6,7-diamino-2-(2'-hydroxyethyl)pyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-ethoxy-2-(2'-aminoethyl)pyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-ethoxy-2-(2'-hydroxyethyl)pyrazolo[1,5-b]-1,2,4-triazole;

and the acid addition salts thereof.

25. A composition according to claim 17, wherein said pyrazolo[3,2-c]-1,2,4-triazoles of formula (Ib) are chosen from:

- 7-amino-3-methylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-3-ethylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-3-isopropylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-3-phenylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-3-(2'-aminoethyl)pyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-3-(2'-hydroxyethyl)pyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-methyl-3-ethylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-3,6-dimethylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-methyl-3-isopropylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-methyl-3-phenylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-methyl-3-(2'-aminoethyl)pyrazolo[3,2-c]-1,2,4-triazole;

- 7-amino-6-methyl-3-(2'-hydroxyethyl)pyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-methyl-3-(methylthio)pyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-phenyl-3-methylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-phenyl-3-ethylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-phenyl-3-isopropylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-phenyl-3-phenylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-phenyl-3-(2'-aminoethyl)pyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-phenyl-3-(2'-hydroxyethyl)pyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-phenyl-3-(methylthio)pyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-ethylthio-3-methylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-ethylthio-3-ethylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-ethylthio-3-isopropylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-ethylthio-3-phenylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-ethylthio-3-(2'-aminoethyl)pyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-ethylthio-3-(2'-hydroxyethyl)pyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-trifluoromethyl-3-(methylthio)pyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-(trifluoromethyl)pyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-carboxy-3-methylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-carboxy-3-ethylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-carboxy-3-isopropylpyrazolo[3,2-c]-1,2,4-triazole;

- 7-amino-6-carboxy-3-phenylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-carboxy-3-(2'-aminoethyl)pyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-carboxy-3-(2'-hydroxyethyl)pyrazolo[3,2-c]-1,2,4-triazole;
- 6,7-diamino-3-methylpyrazolo[3,2-c]-1,2,4-triazole;
- 6,7-diamino-3-ethylpyrazolo[3,2-c]-1,2,4-triazole;
- 6,7-diamino-3-phenylpyrazolo[3,2-c]-1,2,4-triazole;
- 6,7-diamino-3-isopropylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-ethoxy-3-methylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-ethoxy-3-ethylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-ethoxy-3-isopropylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-ethoxy-3-phenylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-ethoxy-3-(2'-aminoethyl)pyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-ethoxy-3-(2'-hydroxyethyl)pyrazolo[3,2-c]-1,2,4-triazole;
- 6,7-diamino-3-(2'-aminoethyl)pyrazolo[3,2-c]-1,2,4-triazole;
- 6,7-diamino-3-(2'-hydroxyethyl)pyrazolo[3,2-c]-1,2,4-triazole;

and the acid addition salts thereof.

26. A composition according to claim 17, wherein said pyrazolotetrazoles of formula (Ic) are chosen from:

- 7-amino-6-methylpyrazolo[5,1-e]tetrazole;
- 7-amino-6-phenylpyrazolo[5,1-e]tetrazole;

- 7-amino-6-carboxypyrazolo[5,1-e]tetrazole;

and the acid addition salts thereof.

27. A composition according to claim 17, wherein said pyrazolo[1,5-a]imidazoles of formula (Id) are chosen from:

- 7-amino-2-methylpyrazolo[1,5-a]imidazole;
- 7-amino-2-phenylpyrazolo[1,5-a]imidazole;
- 7-aminopyrazolo[1,5-a]benzimidazole;
- 7-amino-6-methylpyrazolo[1,5-a]imidazole;
- 7-amino-2,6-dimethylpyrazolo[1,5-a]imidazole;
- 7-amino-6-methyl-2-phenylpyrazolo[1,5-a]imidazole;
- 7-amino-6-methylpyrazolo[1,5-a]benzimidazole;
- 7-amino-6-phenylpyrazolo[1,5-a]imidazole;
- 7-amino-6-phenyl-2-methylpyrazolo[1,5-a]imidazole;
- 7-amino-2,6-diphenylpyrazolo[1,5-a]imidazole;
- 7-amino-6-phenylpyrazolo[1,5-a]benzimidazole;
- 7-amino-6-carboxypyrazolo[1,5-a]imidazole;
- 7-amino-6-carboxy-2-methylpyrazolo[1,5-a]imidazole;
- 7-amino-6-carboxy-2-phenylpyrazolo[1,5-a]imidazole;
- 7-amino-6-carboxypyrazolo[1,5-a]benzimidazole;
- 7-amino-6-ethoxypyrazolo[1,5-a]imidazole;

- 7-amino-6-ethoxy-2-methylpyrazolo[1,5-a]imidazole;
- 7-amino-6-ethoxy-2-phenylpyrazolo[1,5-a]imidazole;
- 7-amino-6-ethoxypyrazolo[1,5-a]benzimidazole;
- 7-amino-6-(trifluoromethyl)pyrazolo[1,5-a]benzimidazole;
- 7-amino-6-aminopyrazolo[1,5-a]imidazole;
- 7-amino-6-amino-2-methylpyrazolo[1,5-a]imidazole;
- 7-amino-6-amino-2-phenylpyrazolo[1,5-a]imidazole;
- 7-amino-6-aminopyrazolo[1,5-a]benzimidazole;
- 7-amino-6-(ethylthio)pyrazolo[1,5-a]imidazole;
- 7-amino-6-ethylthio-2-methylpyrazolo[1,5-a]imidazole;
- 7-amino-6-ethylthio-2-phenylpyrazolo[1,5-a]imidazole;
- 7-amino-6-methyl-2-hydroxypyrazolo[1,5-a]imidazole;
- 7-amino-6-phenyl-2-hydroxypyrazolo[1,5-a]imidazole;
- 7-amino-6-ethoxy-2-hydroxypyrazolo[1,5-a]imidazole;
- 7-amino-6-ethylthio-2-hydroxypyrazolo[1,5-a]imidazole;
- 6,7-diamino-2-hydroxypyrazolo[1,5-a]imidazole;

and the acid addition salts thereof.

28. A composition according to claim 17, wherein said pyrazolo[5,1-e]pyrazoles of formula (Ie) are chosen from:

- 5,8-diamino-4-methylpyrazolo[5,1-e]pyrazole;

- 5,7,8-triamino-4-methylpyrazolo[5,1-e]pyrazole;

and the acid addition salts thereof.

29. A composition according to claim 17, wherein said pyrazolo[5,1-e]-1,2,3-triazoles of formula (If) are chosen from:

- 6-amino-5-methylpyrazolo[5,1-e]-1,2,3-triazole;

- 6-amino-5-phenylpyrazolo[5,1-e]-1,2,3-triazole;

and the acid addition salts thereof.

30. A composition according to claim 1, wherein said at least one compound of formula (I) is present in an amount ranging from 0.0005 to 12% by weight relative to the total weight of said composition.

31. A composition according to claim 30, wherein said at least one compound of formula (I) is present in an amount ranging from 0.005 to 6% by weight relative to the total weight of said composition.

32. A composition according to claim 1, wherein said medium suitable for dyeing comprises water, a water/alcohol mixture or a mixture of water and of at least one organic solvent.

33. A composition according to claim 32, wherein said at least one organic solvent is a C<sub>1</sub>-C<sub>4</sub> lower alkanol, a glycerol, a glycol, a glycol ether, an aromatic alcohol, or a mixture thereof.

34. A composition according to claim 32, wherein said at least one organic



solvent represents from 1 to 40% by weight relative to the total weight of said composition.

35. A composition according to claim 1, wherein said composition has a pH ranging from 3 to 12.

36. A composition according to claim 35, wherein said composition has a pH ranging from 5 to 11.

37. A composition according to claim 1, wherein said composition further contains at least one coupler.

38. A composition according to claim 37, wherein said at least one coupler is chosen from an aromatic diamine, a meta-phenylenediamine, a meta-aminophenol, a meta-diphenol and a heterocyclic coupler.

39. A composition according to claim 38, wherein said at least one coupler is chosen from 2-methyl-5-aminophenol, 5-N-( $\beta$ -hydroxyethyl)amino-2-methylphenol, 3-aminophenol, 1,3-dihydroxybenzene, 1,3-dihydroxy-2-methylbenzene, 4-chloro-1,3-dihydroxybenzene, 2,4-diamino-1-( $\beta$ -hydroxyethoxy)benzene, 2-amino-4-( $\beta$ -hydroxyethyl)amino-1-methoxybenzene, 1,3-diaminobenzene, 1,3-bis(2,4-diaminophenoxy)-propane, sesamol,  $\alpha$ -naphthol, 6-hydroxyindole, 4-hydroxyindole, 4-hydroxy-N-methylindole, 6-hydroxyindoline, 2,6-dihydroxy-4-methylpyridine, 1H-3-methylpyrazol-5-one, 1-phenyl-3-methylpyrazol-5-one, 2,6-dimethylpyrazolo[1,5-b]-1,2,4-triazole, 2,6-dimethyl[3,2-c]-1,2,4-triazole, 6-methylpyrazolo-[1,5-a]benzimidazole,

and the acid addition salts thereof.

40. A composition according to claim 37, wherein said at least one coupler is present in an amount ranging from 0.0001 to 10% by weight relative to the total weight of said composition.

41. A composition according to claim 40, wherein said at least one coupler is present in an amount ranging from 0.005 to 5% by weight relative to the total weight of said composition.

42. A composition according to claim 1, wherein said composition further comprises at least one additional oxidation base.

43. A composition according to claim 42, wherein said at least one additional oxidation base is chosen from a para-phenylenediamine, a bisphenylalkylenediamine, a para-aminophenol, an ortho-aminophenol and a heterocyclic base other than said pyrazoloazole compounds of formula (I).

44. A composition according to claim 42, wherein said at least one additional oxidation base is present in an amount ranging from 0.0005 to 12% by weight relative to the total weight of said composition.

45. A composition according to claim 1, wherein said at least one acid addition salt is a hydrochloride, a hydrobromide, a sulphate, a citrate, a succinate, a tartrate, a tosylate, a benzenesulphonate, a lactate or an acetate.

46. A composition according to claim 1, wherein said composition additionally

contains at least one direct dye.

47. A method for dyeing keratinous fibers comprising contacting said fibers with at least one oxidation dye composition according to claim 1, in the presence of air or an oxidizing agent, for a time sufficient to achieve color development.

48. The method according to claim 47, wherein said keratinous fibers are human keratinous fibers.

49. The method according to claim 48, wherein said human keratinous fibers are hair.

50. A method according to claim 47, wherein said color development is achieved without an oxidizing agent, but with contact only with atmospheric oxygen.

51. The method according to claim 47, wherein said dye composition is mixed at the time of use with an oxidizing composition comprising, in a medium suitable for dyeing, at least one oxidizing agent present in an amount sufficient for color development.

52. The method according to claim 47, wherein said dye composition additionally contains at least one oxidation catalyst.

53. The method according to claim 52, wherein said at least one oxidation catalyst is a metal salt.

54. The method according to claim 53, wherein said metal salt is manganese, cobalt, copper, iron, silver or zinc.

55. The method according to claim 53, wherein said metal salt is manganese diacetate tetrahydrate, manganese dichloride, manganese triacetate or a hydrate thereof, manganese trichloride, zinc dichloride, zinc diacetate dihydrate, zinc carbonate, zinc dinitrate, zinc sulphate, iron dichloride, iron sulphate, iron diacetate, cobalt diacetate tetrahydrate, cobalt carbonate, cobalt dichloride, cobalt sulphate heptahydrate, cupric chloride or ammoniacal silver nitrate.

56. The method according to claim 53, wherein said metal salt is present in an amount ranging from 0.001 to 4% by weight relative to the total weight of said dye composition.

57. The method according to claim 56, wherein said metal salt is present in an amount ranging from 0.005 to 2% by weight relative to the total weight of said dye composition.

58. The method according to claim 51, wherein said at least one oxidizing agent is hydrogen peroxide, urea hydrogen peroxide, an alkali metal bromate, a persalt, or an enzyme.

59. The method according to claim 58, wherein said persalt is a perborate or a persulphate.

60. The method according to claim 58, wherein said enzyme is a peroxidase or an oxidoreductase with 2 unpaired electrons.

61. The method according to claim 47, wherein said color is developed at

acidic, neutral, or alkaline pH with an oxidizing agent which is added to said oxidation dyeing composition at the time of application or which is present in an oxidizing composition that is applied:

- (i) separately from the dye composition at the same time that said dye composition is applied to said fibers, or
- (ii) sequentially with the dye composition.

62. The method according to claim 47, wherein said time ranges from 3 to 50 minutes.

63. The method according to claim 62, wherein said time ranges from 5 to 30 minutes.

64. The method according to claim 51, wherein said oxidizing composition has a pH ranging from 3 to 12.

65. The method according to claim 64, wherein said oxidizing composition has a pH ranging from 5 to 11.

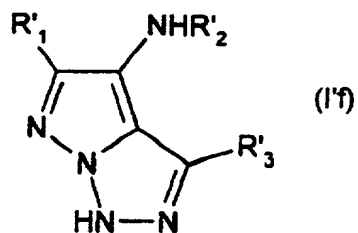
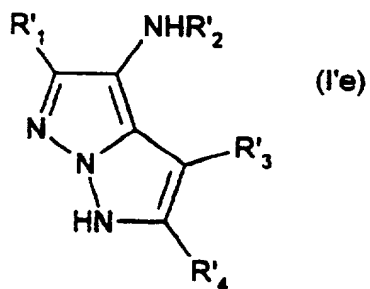
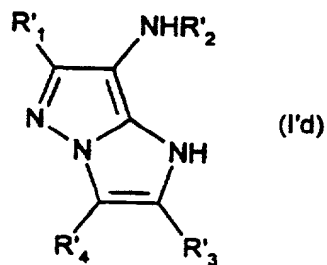
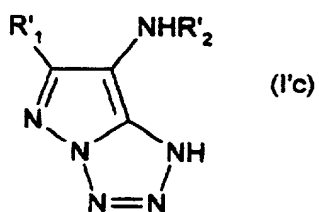
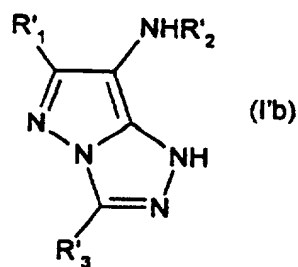
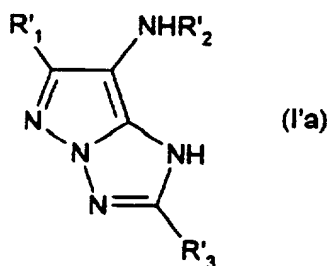
66. The composition according to claim 1, said composition being in the form of a liquid, a cream, a gel or any other form suitable for dyeing keratinous fibers.

67. A multi-compartment dyeing device or kit for dyeing keratin fibers, comprising at least two compartments,

a first compartment of which contains a dyeing composition according to claim 1 and

a second compartment of which contains an oxidizing composition.

68. A compound of formula (I') chosen from the compounds of the following formulae (I'a) to (I'f):



in which R<sub>1</sub>', R<sub>2</sub>', R<sub>3</sub>' and R<sub>4</sub>' have the same meanings as those indicated in claim 1 for

R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub> and R<sub>4</sub> of the formula (I); it being understood that:

- in the compounds of formula (I'b):

- i) when R'<sub>1</sub> represents a methyl radical and when R'<sub>2</sub> represents a hydrogen atom, then the R'<sub>3</sub> radical is other than a methyl radical or than a (CH<sub>2</sub>)<sub>3</sub>-SO<sub>2</sub>-(CH<sub>2</sub>)<sub>15</sub>-CH<sub>3</sub> or CH(CH<sub>3</sub>)-CH<sub>2</sub>-SO<sub>2</sub>-(CH<sub>2</sub>)<sub>11</sub>-CH<sub>3</sub> radical;
- ii) when R'<sub>1</sub> represents a tert-butyl radical and when R'<sub>2</sub> represents a hydrogen atom, then R'<sub>3</sub> is other than a (CH<sub>2</sub>)<sub>3</sub>-SO<sub>2</sub>-(CH<sub>2</sub>)<sub>11</sub>-CH<sub>3</sub> radical;

- in the compounds of formula (I'd):

- when R'<sub>3</sub> and R'<sub>4</sub> together form a benzene ring and when R'<sub>2</sub> represents a hydrogen atom, then R'<sub>1</sub> is other than a methyl, -CONH<sub>2</sub> or carboxyl radical;
- when R'<sub>3</sub> and R'<sub>4</sub> together form a benzene ring substituted by a sulphonyl radical in the 4 position and when R'<sub>2</sub> represents a hydrogen atom, then R'<sub>1</sub> is other than a phenyl radical, than a -(CH<sub>2</sub>)<sub>16</sub>-CH<sub>3</sub> radical or than a -COOH radical;
- when R'<sub>3</sub> and R'<sub>4</sub> together form a benzene ring substituted by a carboxyl radical in the 4 position and when R'<sub>2</sub> represents a hydrogen atom, then R'<sub>1</sub> is other than a carboxyl radical.

69. A compound of formula (I') according to claim 68, wherein said compound

is:

- 7-amino-2-methylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-2-ethylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-2-isopropylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-2-phenylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-2,6-dimethylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-methyl-2-ethylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-methyl-2-isopropylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-methyl-2-phenylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-carboxy-2-methylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-carboxy-2-ethylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-carboxy-2-isopropylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-carboxy-2-phenylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-phenyl-2-methylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-phenyl-2-ethylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-phenyl-2-isopropylpyrazolo[1,5-b]-1,2,4-triazole;
- 6,7-diamino-2-methylpyrazolo[1,5-b]-1,2,4-triazole;
- 6,7-diamino-2-ethylpyrazolo[1,5-b]-1,2,4-triazole;
- 6,7-diamino-2-isopropylpyrazolo[1,5-b]-1,2,4-triazole;
- 6,7-diamino-2-phenylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-ethylthio-2-methylpyrazolo[1,5-b]-1,2,4-triazole;



- 7-amino-6-ethylthio-2-ethylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-ethylthio-2-isopropylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-ethylthio-2-phenylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-ethoxy-2-methylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-ethoxy-2-ethylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-ethoxy-2-isopropylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-ethoxy-2-phenylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-methyl-2-(2'-aminoethyl)pyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-carboxy-2-(2'-aminoethyl)pyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-phenyl-2-(2'-aminoethyl)pyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-ethylthio-2-(2'-aminoethyl)pyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-2-(2'-aminoethyl)pyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-2-(2'-hydroxyethyl)pyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-methyl-2-(2'-hydroxyethyl)pyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-ethylthio-2-(2'-hydroxyethyl)pyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-carboxy-2-(2'-hydroxyethyl)pyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-phenyl-2-(2'-hydroxyethyl)pyrazolo[1,5-b]-1,2,4-triazole;
- 6,7-diamino-2-(2'-aminoethyl)pyrazolo[1,5-b]-1,2,4-triazole;
- 6,7-diamino-2-(2'-hydroxyethyl)pyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-ethoxy-2-(2'-aminoethyl)pyrazolo[1,5-b]-1,2,4-triazole;

- 7-amino-6-ethoxy-2-(2'-hydroxyethyl)pyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-3-methylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-3-ethylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-3-isopropylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-3-phenylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-3-(2'-aminoethyl)pyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-3-(2'-hydroxyethyl)pyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-methyl-3-ethylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-3,6-dimethylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-methyl-3-isopropylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-methyl-3-phenylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-methyl-3-(2'-aminoethyl)pyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-methyl-3-(2'-hydroxyethyl)pyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-methyl-3-(methylthio)pyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-phenyl-3-methylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-phenyl-3-ethylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-phenyl-3-isopropylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-phenyl-3-phenylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-phenyl-3-(2'-aminoethyl)pyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-phenyl-3-(2'-hydroxyethyl)pyrazolo[3,2-c]-1,2,4-triazole;

- 7-amino-6-phenyl-3-(methylthio)pyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-ethylthio-3-methylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-ethylthio-3-ethylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-ethylthio-3-isopropylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-ethylthio-3-phenylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-ethylthio-3-(2'-aminoethyl)pyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-ethylthio-3-(2'-hydroxyethyl)pyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-trifluoromethyl-3-(methylthio)pyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-(trifluoromethyl)pyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-carboxy-3-methylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-carboxy-3-ethylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-carboxy-3-isopropylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-carboxy-3-phenylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-carboxy-3-(2'-aminoethyl)pyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-carboxy-3-(2'-hydroxyethyl)pyrazolo[3,2-c]-1,2,4-triazole;
- 6,7-diamino-3-methylpyrazolo[3,2-c]-1,2,4-triazole;
- 6,7-diamino-3-ethylpyrazolo[3,2-c]-1,2,4-triazole;
- 6,7-diamino-3-phenylpyrazolo[3,2-c]-1,2,4-triazole;
- 6,7-diamino-3-isopropylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-ethoxy-3-methylpyrazolo[3,2-c]-1,2,4-triazole;

- 7-amino-6-ethoxy-3-ethylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-ethoxy-3-isopropylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-ethoxy-3-phenylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-ethoxy-3-(2'-aminoethyl)pyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-ethoxy-3-(2'-hydroxyethyl)pyrazolo[3,2-c]-1,2,4-triazole;
- 6,7-diamino-3-(2'-aminoethyl)pyrazolo[3,2-c]-1,2,4-triazole;
- 6,7-diamino-3-(2'-hydroxyethyl)pyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-methylpyrazolo[5,1-e]tetrazole;
- 7-amino-6-phenylpyrazolo[5,1-e]tetrazole;
- 7-amino-6-carboxypyrazolo[5,1-e]tetrazole;
- 7-aminopyrazolo[1,5-a]imidazole;
- 7-amino-2-methylpyrazolo[1,5-a]imidazole;
- 7-amino-2-phenylpyrazolo[1,5-a]imidazole;
- 7-aminopyrazolo[1,5-a]benzimidazole;
- 7-amino-6-methylpyrazolo[1,5-a]imidazole;
- 7-amino-2,6-dimethylpyrazolo[1,5-a]imidazole;
- 7-amino-6-methyl-2-phenylpyrazolo[1,5-a]imidazole;
- 7-amino-6-phenylpyrazolo[1,5-a]imidazole;
- 7-amino-6-phenyl-2-methylpyrazolo[1,5-a]imidazole;
- 7-amino-2,6-diphenylpyrazolo[1,5-a]imidazole;

- 7-amino-6-phenylpyrazolo[1,5-a]benzimidazole;
- 7-amino-6-carboxypyrazolo[1,5-a]imidazole;
- 7-amino-6-carboxy-2-methylpyrazolo[1,5-a]imidazole;
- 7-amino-6-carboxy-2-phenylpyrazolo[1,5-a]imidazole;
- 7-amino-6-ethoxypyrazolo[1,5-a]imidazole;
- 7-amino-6-ethoxy-2-methylpyrazolo[1,5-a]imidazole;
- 7-amino-6-ethoxy-2-phenylpyrazolo[1,5-a]imidazole;
- 7-amino-6-ethoxypyrazolo[1,5-a]benzimidazole;
- 7-amino-6-(trifluoromethyl)pyrazolo[1,5-a]benzimidazole;
- 7-amino-6-aminopyrazolo[1,5-a]imidazole;
- 7-amino-6-amino-2-methylpyrazolo[1,5-a]imidazole;
- 7-amino-6-amino-2-phenylpyrazolo[1,5-a]imidazole;
- 7-amino-6-aminopyrazolo[1,5-a]benzimidazole;
- 7-amino-6-(ethylthio)pyrazolo[1,5-a]imidazole;
- 7-amino-6-ethylthio-2-methylpyrazolo[1,5-a]imidazole;
- 7-amino-6-ethylthio-2-phenylpyrazolo[1,5-a]imidazole;
- 7-amino-6-methyl-2-hydroxypyrazolo[1,5-a]imidazole;
- 7-amino-6-phenyl-2-hydroxypyrazolo[1,5-a]imidazole;
- 7-amino-6-ethoxy-2-hydroxypyrazolo[1,5-a]imidazole;
- 7-amino-6-ethylthio-2-hydroxypyrazolo[1,5-a]imidazole;

- 6,7-diamino-2-hydroxypyrazolo[1,5-a]imidazole;
- 5,8-diamino-4-methylpyrazolo[5,1-e]pyrazole;
- 5,7,8-triamino-4-methylpyrazolo[5,1-e]pyrazole;
- 6-amino-5-methylpyrazolo[5,1-e]-1,2,3-triazole;
- 6-amino-5-phenylpyrazolo[5,1-e]-1,2,3-triazole;

or an acid addition salt thereof.

70. A compound of formula (I'a) according to claim 68, wherein said compound is:

- 7-amino-2-methylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-2-ethylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-2-isopropylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-2-phenylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-2,6-dimethylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-methyl-2-ethylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-methyl-2-isopropylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-methyl-2-phenylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-carboxy-2-methylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-carboxy-2-ethylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-carboxy-2-isopropylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-carboxy-2-phenylpyrazolo[1,5-b]-1,2,4-triazole;

- 7-amino-6-phenyl-2-methylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-phenyl-2-ethylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-phenyl-2-isopropylpyrazolo[1,5-b]-1,2,4-triazole;
- 6,7-diamino-2-methylpyrazolo[1,5-b]-1,2,4-triazole;
- 6,7-diamino-2-ethylpyrazolo[1,5-b]-1,2,4-triazole;
- 6,7-diamino-2-isopropylpyrazolo[1,5-b]-1,2,4-triazole;
- 6,7-diamino-2-phenylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-ethylthio-2-methylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-ethylthio-2-ethylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-ethylthio-2-isopropylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-ethylthio-2-phenylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-ethoxy-2-methylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-ethoxy-2-ethylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-ethoxy-2-isopropylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-ethoxy-2-phenylpyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-methyl-2-(2'-aminoethyl)pyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-carboxy-2-(2'-aminoethyl)pyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-phenyl-2-(2'-aminoethyl)pyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-ethylthio-2-(2'-aminoethyl)pyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-2-(2'-aminoethyl)pyrazolo[1,5-b]-1,2,4-triazole;

- 7-amino-2-(2'-hydroxyethyl)pyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-methyl-2-(2'-hydroxyethyl)pyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-ethylthio-2-(2'-hydroxyethyl)pyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-carboxy-2-(2'-hydroxyethyl)pyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-phenyl-2-(2'-hydroxyethyl)pyrazolo[1,5-b]-1,2,4-triazole;
- 6,7-diamino-2-(2'-aminoethyl)pyrazolo[1,5-b]-1,2,4-triazole;
- 6,7-diamino-2-(2'-hydroxyethyl)pyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-ethoxy-2-(2'-aminoethyl)pyrazolo[1,5-b]-1,2,4-triazole;
- 7-amino-6-ethoxy-2-(2'-hydroxyethyl)pyrazolo[1,5-b]-1,2,4-triazole;

or an acid addition salt thereof.

71. A compound of formula (I'b) according to claim 68, wherein said compound is:

- 7-amino-3-methylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-3-ethylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-3-isopropylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-3-phenylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-3-(2'-aminoethyl)pyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-3-(2'-hydroxyethyl)pyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-methyl-3-ethylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-3,6-dimethylpyrazolo[3,2-c]-1,2,4-triazole;



- 7-amino-6-methyl-3-isopropylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-methyl-3-phenylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-methyl-3-(2'-aminoethyl)pyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-methyl-3-(2'-hydroxyethyl)pyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-methyl-3-(methylthio)pyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-phenyl-3-methylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-phenyl-3-ethylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-phenyl-3-isopropylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-phenyl-3-phenylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-phenyl-3-(2'-aminoethyl)pyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-phenyl-3-(2'-hydroxyethyl)pyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-phenyl-3-(methylthio)pyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-ethylthio-3-methylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-ethylthio-3-ethylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-ethylthio-3-isopropylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-ethylthio-3-phenylpyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-ethylthio-3-(2'-aminoethyl)pyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-ethylthio-3-(2'-hydroxyethyl)pyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-trifluoromethyl-3-(methylthio)pyrazolo[3,2-c]-1,2,4-triazole;
- 7-amino-6-(trifluoromethyl)pyrazolo[3,2-c]-1,2,4-triazole;

- 7-amino-6-carboxy-3-methylpyrazolo[3,2-c]-1,2,4-triazole;
  - 7-amino-6-carboxy-3-ethylpyrazolo[3,2-c]-1,2,4-triazole;
  - 7-amino-6-carboxy-3-isopropylpyrazolo[3,2-c]-1,2,4-triazole;
  - 7-amino-6-carboxy-3-phenylpyrazolo[3,2-c]-1,2,4-triazole;
  - 7-amino-6-carboxy-3-(2'-aminoethyl)pyrazolo[3,2-c]-1,2,4-triazole;
  - 7-amino-6-carboxy-3-(2'-hydroxyethyl)pyrazolo[3,2-c]-1,2,4-triazole;
  - 6,7-diamino-3-methylpyrazolo[3,2-c]-1,2,4-triazole;
  - 6,7-diamino-3-ethylpyrazolo[3,2-c]-1,2,4-triazole;
  - 6,7-diamino-3-phenylpyrazolo[3,2-c]-1,2,4-triazole;
  - 6,7-diamino-3-isopropylpyrazolo[3,2-c]-1,2,4-triazole;
  - 7-amino-6-ethoxy-3-methylpyrazolo[3,2-c]-1,2,4-triazole;
  - 7-amino-6-ethoxy-3-ethylpyrazolo[3,2-c]-1,2,4-triazole;
  - 7-amino-6-ethoxy-3-isopropylpyrazolo[3,2-c]-1,2,4-triazole;
  - 7-amino-6-ethoxy-3-phenylpyrazolo[3,2-c]-1,2,4-triazole;
  - 7-amino-6-ethoxy-3-(2'-aminoethyl)pyrazolo[3,2-c]-1,2,4-triazole;
  - 7-amino-6-ethoxy-3-(2'-hydroxyethyl)pyrazolo[3,2-c]-1,2,4-triazole;
  - 6,7-diamino-3-(2'-aminoethyl)pyrazolo[3,2-c]-1,2,4-triazole;
  - 6,7-diamino-3-(2'-hydroxyethyl)pyrazolo[3,2-c]-1,2,4-triazole;
- or an acid addition salt thereof.

72. A compound of formula (I'c) according to claim 68, wherein said

compound is:

- 7-amino-6-methylpyrazolo[5,1-e]tetrazole;
- 7-amino-6-phenylpyrazolo[5,1-e]tetrazole;
- 7-amino-6-carboxypyrazolo[5,1-e]tetrazole;

or an acid addition salt thereof.

73. A compound of formula (I'd) according to claim 68, wherein said compound is:

- 7-aminopyrazolo[1,5-a]imidazole;
- 7-amino-2-methylpyrazolo[1,5-a]imidazole;
- 7-amino-2-phenylpyrazolo[1,5-a]imidazole;
- 7-aminopyrazolo[1,5-a]benzimidazole;
- 7-amino-6-methylpyrazolo[1,5-a]imidazole;
- 7-amino-2,6-dimethylpyrazolo[1,5-a]imidazole;
- 7-amino-6-methyl-2-phenylpyrazolo[1,5-a]imidazole;
- 7-amino-6-phenylpyrazolo[1,5-a]imidazole;
- 7-amino-6-phenyl-2-methylpyrazolo[1,5-a]imidazole;
- 7-amino-2,6-diphenylpyrazolo[1,5-a]imidazole;
- 7-amino-6-phenylpyrazolo[1,5-a]benzimidazole;
- 7-amino-6-carboxypyrazolo[1,5-a]imidazole;
- 7-amino-6-carboxy-2-methylpyrazolo[1,5-a]imidazole;

- 7-amino-6-carboxy-2-phenylpyrazolo[1,5-a]imidazole;
- 7-amino-6-ethoxypyrazolo[1,5-a]imidazole;
- 7-amino-6-ethoxy-2-methylpyrazolo[1,5-a]imidazole;
- 7-amino-6-ethoxy-2-phenylpyrazolo[1,5-a]imidazole;
- 7-amino-6-ethoxypyrazolo[1,5-a]benzimidazole;
- 7-amino-6-(trifluoromethyl)pyrazolo[1,5-a]benzimidazole;
- 7-amino-6-aminopyrazolo[1,5-a]imidazole;
- 7-amino-6-amino-2-methylpyrazolo[1,5-a]imidazole;
- 7-amino-6-amino-2-phenylpyrazolo[1,5-a]imidazole;
- 7-amino-6-aminopyrazolo[1,5-a]benzimidazole;
- 7-amino-6-(ethylthio)pyrazolo[1,5-a]imidazole;
- 7-amino-6-ethylthio-2-methylpyrazolo[1,5-a]imidazole;
- 7-amino-6-ethylthio-2-phenylpyrazolo[1,5-a]imidazole;
- 7-amino-6-methyl-2-hydroxypyrazolo[1,5-a]imidazole;
- 7-amino-6-phenyl-2-hydroxypyrazolo[1,5-a]imidazole;
- 7-amino-6-ethoxy-2-hydroxypyrazolo[1,5-a]imidazole;
- 7-amino-6-ethylthio-2-hydroxypyrazolo[1,5-a]imidazole;
- 6,7-diamino-2-hydroxypyrazolo[1,5-a]imidazole;

or an acid addition salt thereof.

74. A compound of formula (I'e) according to claim 68, wherein said

compound is:

- 5,8-diamino-4-methylpyrazolo[5,1-e]pyrazole;
- 5,7,8-triamino-4-methylpyrazolo[5,1-e]pyrazole;

or an acid addition salt thereof.

75. A compound of formula (I'f) according to claim 68, wherein said compound is:

- 6-amino-5-methylpyrazolo[5,1-e]-1,2,3-triazole;
- 6-amino-5-phenylpyrazolo[5,1-e]-1,2,3-triazole;

or an acid addition salt thereof.